

## Alcimedea

Alcimedea is a strong believer in the view that a specialty can exist only when a robust body of published work provides evidence of what the speciality does and why it should continue to exist – only thus, will it earn the respect of its peers. A double volume special edition of *Forensic Science International* (2007; 165(2–3): 85–244) sets out to assess the quality of research in forensic medicine and define standards for scientific studies in the various different disciplines within the specialty. Forensic medical research faces many problems, not least the fact that the value and quality of research is nowadays evaluated in terms of the amount of external funding generated and the impact factors of the journals that publish original research – areas in which forensic medicine finds it very difficult to compete with mainstream clinical specialties. Nonetheless, the editors of this special edition hope that it will provide a stimulus for high quality research in forensic medicine and forensic sciences. As they point out, if forensic medicine as an academic discipline dies, then so will the quality of practise of forensic medicine deteriorate.

Methadone is a long-acting synthetic opiate that is used extensively for opioid dependence detoxification and maintenance. The drug has a variable half life that can be up to 59-h and overdose of the drug can cause delayed coma and require naloxone infusion. To date, there is very little published research on the time it takes to develop symptoms following a methadone overdose in adults. A retrospective review of 44 patients admitted with isolated methadone overdose set out to consider this issue (*Am J Emerg Med* 2007; 25: 57–59). The study found that all symptoms occurred within 9 h of methadone ingestion, with a mean onset of symptoms of 3.2 h. However, Alcimedea urges caution as this was retrospective study involving a relatively small number of patients and reminds readers that case reports have identified deaths due to methadone toxicity occurring as long as 36 h after methadone ingestion.

In the majority of cases of alleged sexual assault, vaginal swabs will be examined for the presence of spermatozoa in order to determine whether vaginal intercourse took place and penile swabs may be examined for the presence of vaginal epithelial cells. The current method employed by forensic laboratories for visualisation of spermatozoa or vaginal cells from swabs involves the use of water, agitation and centrifugation to remove the cells from the swab. However, the use of water can cause cells to burst or shrivel up due to osmosis, and this can be critical in cases where there are very few cells to begin with. A study that used phosphate buffered saline (PBS) rather than water found that PBS can effectively recover cells and spermatozoa without affecting subsequent DNA analysis. PBS has the advantage that it prevents

cells rupturing and shriveling up due to osmosis (*Sci Justice* 2007; 46: 179–84).

Further evidence of crack cocaine's powerful vasoconstrictive properties can be found in a case report of 43-year-old woman who presented with decreased mental responsiveness and cyanosis of the extremities several hours after repeated use of "crack" cocaine. She went on to develop gangrene of both hands and legs and, despite anticoagulant and antithrombotic therapy, digital and above-knee amputations were required (*Ann Emerg Med* 2007; 49: 186–9). The authors suggest that the use of intravenous vasodilators should be considered as potential additional therapy in cases such as this.

In the United States there are more than 400 sexual assault nurse examiner (SANE) programmes in emergency departments, many of which are located in hospitals that train emergency medicine residents. A potential negative consequence of the strength and growth of the SANE programme is the reduced clinical exposure of resident physicians to complainants of sexual assault, which may result in inadequate training in the assessment and treatment of these patients and a lack of understanding of basic forensic principles. A study amongst emergency medicine residents in an urban centre with an active SANE programme found that the residents had limited knowledge and skills in the treatment of complainants of sexual assault. However, after educational intervention that included 8 h of lecture, role play, and skills laboratories, the residents' knowledge and evidence collection skills were increased to levels equivalent to that of experienced providers in a SANE programme (*Ann Emerg Med* 2007; 49: 489–94).

Wound examination is an integral aspect of forensic practice and determination of wound vitality or wound age to correctly evaluate the relationship between the time of an alleged assault and an observed injury can be vital to the investigation of crime. A review article reminds us that skin wound healing is a primitive but well orchestrated biological phenomenon consisting of three sequential phases, inflammation, proliferation, and maturation (*Legal Med* 2007; 9: 109–14). Many biological substances are involved in the process of wound repair and, with the development of immunohistochemistry and chemical analyses, the scientific field of wound age determination has advanced significantly during recent years. Whilst these advances are of great help to the forensic pathologist, sadly they have little or no application to the examination of wounds in the living and the difficult role the forensic physician has when attempting to determine wound age.